

09/729,513

E0802/AMDP464USA

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all other versions, and listings, of claims in the application.

Listing of Claims:

1. (Previously Presented) A system for repairing defects in a semiconductor substrate, comprising:
a scanning probe microscope that has a measuring tip and a scribing tip;
and
a defect repair system that repairs defects in a substrate *via* application of a first voltage to the substrate and a second voltage to the scribing tip, which is positioned at a location determined by the scanning probe microscope;
wherein defect location(s) and the substrate itself are mapped into a grid, each portion of which corresponds to an XY position.
2. (Cancelled)
3. (Previously Presented) The system of claim 1, wherein the defects are mechanically removed from the substrate using the scribing tip.
4. (Original) The system of claim 3, wherein the scanning probe microscope is an atomic force microscope.
5. (Previously Presented) The method of claim 4, wherein the scribing tip of the scanning probe microscope has a diamond tip.
6. (Cancelled)
7. (Previously Presented) The system of claim 1, wherein the voltage difference causes defects to be oxidized away.

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8. (Previously Presented) The system of claim 1, wherein the defects are repaired by heating the scribing tip.
9. (Original) The system of claim 1, wherein the system locates defects by obtaining both topographical and compositional information concerning the substrate.
10. (Original) The system of claim 9, wherein the system creates an electrostatic charge in a portion of the substrate.
11. (Previously Presented) The system of claim 1, wherein the measuring tip has fixed position relative to the scribing tip of the scanning probe microscope.
12. (Original) The system of claim 1, wherein the defect repair system receives a defect map generated using the scanning probe microscope.
13. (Previously Presented) A system for repairing defects in a semiconductor substrate, comprising:
a scanning probe microscope that has a measuring tip and a scribing tip;
means for selectively processing the semiconductor substrate to repair defects at locations on the semiconductor substrate determined by the scanning probe microscope;
means for applying a first biasing voltage to the semiconductor substrate and a second biasing voltage to the scribing tip; and
means for mapping the semiconductor substrate and defect locations thereon in a grid pattern.
14. (Previously Presented) A method of repairing a defect in a semiconductor substrate comprising:
locating the defect *via* employing a measuring tip of a scanning probe microscope;
mapping the defect location to XY coordinates in a grid map of the semiconductor substrate; and

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repairing the defect at the location determined by the scanning probe microscope measuring tip *via* employing a scribing tip, wherein a first biasing voltage is applied to the semiconductor substrate and a second biasing voltage is applied to the scribing tip.

15. (Cancelled)

16. (Previously Presented) The method of claim 14, wherein the defect is mechanically removed from the substrate using the scribing tip.

17. (Original) The method of claim 16, wherein the scanning probe microscope is an atomic force microscope.

18. (Previously Presented) The method of claim 17, wherein the scribing tip of the scanning probe microscope has a diamond tip.

19. (Original) The method of claim 16, wherein the defect is removed by forcing the tip against the substrate with a normal force that is at least about ten times greater than the normal force applied to detect the defect.

20. (Cancelled)

21. (Previously Presented) The method of claim 14, wherein the voltage difference causes the defect to be oxidized away.

22. (Previously Presented) The method of claim 14, wherein the step of repairing the defect comprises heating the scribing tip.

23. (Original) The method of claim 14, further comprising the step of determining the approximate location of the defect with another instrument prior to the step of determining the defect's location using the scanning probe microscope.

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24. (Original) The method of claim 14, wherein the step of locating the defect comprises obtains both topographical and compositional information regarding the substrate.

25. (Original) The method of claim 24, wherein the step of locating the defect comprises creating an electrostatic charge in a portion of the substrate.